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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,048	12/04/2003	Patrick Ferguson	K005 P00700-US1	8933
3017	7590	05/15/2006	EXAMINER	
BARLOW, JOSEPHS & HOLMES, LTD. 101 DYER STREET 5TH FLOOR PROVIDENCE, RI 02903			MAZUMDAR, SONYA	
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/728,048

Applicant(s)

FERGUSON ET AL.

Examiner

Sonya Mazumdar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2003 and 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. If applicant desires to claim the benefit of a parent application, PCT/US03/38538, under 35 U.S.C. 120, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C.

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119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010

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(Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 10 of copending Application No. 10/097,717 in view of Usuki et al. (US 6316385) and Rees (US 3264272). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 in both applications outlines a method of applying images onto surfaces of a plastic three-dimensional object in the same exact manner, with exception to the composition of the film substrate. Usuki et al. teach using a thermal transfer dye-receptive sheet comprising a substrate sheet and a dye receptive layer, where the substrate sheet further comprises an ionomer film (abstract; column 6, lines 14-25). Rees teaches an ionomer film commonly known as Surlyn, comprising: an  $\alpha$ -olefin having the formula  $R-CH=CH_2$ , where R is wither hydrogen or an alkyl radical having from 1 to 8 carbon atoms; an  $\alpha,\beta$ -ethylenically unsaturated carboxylic acid group containing a monomer having 3 to 8 carbon atoms, and a metal ion being sufficient to neutralize at least 10% of the carboxylic acid group (column 1, line 69 – column 2, line 23; column 2, lines 40-42).

It would have been obvious to use a transfer element in transfer printing as Usuki et al. and Rees taught and would have been motivated to do so to have a film that does not evolve any by-product compounds during heating, and therefore having an environmentally friendly transfer element.

Claim 10 of the copending application and claim 7 of the present application both disclose preheating an image carrier sheet after the step of lowering the flexible membrane and prior to establishing a vacuum.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being obvious over Neri et al. (US 2002/0131062) in view of Usuki et al. and Rees.

Neri et al. teach a method of printing an image onto a plastic three-dimensional surface with non-planar surfaces by an image carrier sheet. A flexible membrane is lowered over the three-dimensional object with the image carrier sheet thereon. A vacuum is established and the membrane, image carrier sheet, and object are heated uniformly to cause the image from the carrier sheet to transfer into the surface the carrier sheet is on (page 6, claim 1).

Neri et al. fail to teach using a printed transfer element of a certain composition. Usuki et al. teach using a thermal transfer dye-receptive sheet comprising a substrate sheet and a dye receptive layer, where the substrate sheet further comprises an ionomer film (abstract; column 6, lines 14-25). Rees teaches an ionomer film commonly known as Surlyn, comprising: an  $\alpha$ -olefin having the formula  $R-CH=CH_2$ , where R is wither hydrogen or an alkyl radical having from 1 to 8 carbon atoms; an  $\alpha,\beta$ -ethylenically unsaturated carboxylic acid group containing a monomer having 3 to 8 carbon atoms, and a metal ion being sufficient to neutralize at least 10% of the carboxylic acid group (column 1, line 69 – column 2, line 23; column 2, lines 40-42).

It would have been obvious to Neri et al. to use a transfer element in transfer printing as Usuki et al. and Rees taught and would have been motivated to do so to have a film that does not evolve any by-product compounds during heating, and therefore having an environmentally friendly transfer element.

With respect to claim 7, the image carrier sheet is heated to make it more flexible after a flexible membrane is lowered over the carrier sheet and prior to establishing a vacuum (page 6, claim 10).

6. Claims 1, 2, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hastie et al. (WO 01/96123) in view of Usuki et al., Rees, and Durand (US 4670084)

With respect to claims 1, 5, 6, and 7, Hastie et al. teach a method of printing an image onto a plastic three-dimensional surface with non-planar surfaces by a printed transfer element (abstract; page 1, paragraph 1). The printed transfer element is placed over the object, which has a receptor coating, and is heated to make it more flexible. The transfer element is vacuum formed onto the surface and heated to at least partially transfer the image from the transfer element to the object (abstract; page 2, paragraph 5 – page 3, paragraph 2; page 4, paragraph 1).

Hastie et al. fail to teach using a printed transfer element of a certain composition. Usuki et al. teach using a thermal transfer dye-receptive sheet comprising a substrate sheet and a dye receptive layer, where the substrate sheet further comprises an ionomer film (abstract; column 6, lines 14-25). Rees teaches an ionomer film commonly known as Surlyn, comprising: an  $\alpha$ -olefin having the formula  $R-CH=CH_2$ , where R is wither hydrogen or an alkyl radical having from 1 to 8 carbon atoms; an  $\alpha,\beta$ -ethylenically unsaturated carboxylic acid group containing a monomer having 3 to 8 carbon atoms, and a metal ion being sufficient to neutralize at least 10% of the carboxylic acid group (column 1, line 69 – column 2, line 23; column 2, lines 40-42).

It would have been obvious to Hastie et al. to use a transfer element in transfer printing as Usuki et al. and Rees taught and would have been motivated to do so to have a film that does not evolve any by-product compounds during heating, and therefore having an environmentally friendly transfer element.



Furthermore, Hastie et al. do not specifically teach using a flexible membrane over a printed transfer layer atop a three-dimensional surface. Durand teaches transfer printing by using a vacuum press with a flexible membrane which is positioned over a image bearing sheet positioned atop an article and using a plurality of radiant heating elements, emitting heat in the infrared wavelength range, to heat the membrane after the vacuum assembly has been actuated to transfer the dye onto the article. Each radiant heating means comprises a parabolic reflector (abstract; column 1, lines 46-65).

It would have been obvious for Hastie et al. to teach using a flexible membrane used in the vacuum forming step in transfer printing as Durand taught and would have been motivated to do so to vacuum form surfaces of different shapes and sizes, and furthermore, the flexible membrane is matched with the heating elements so that it is specifically absorptive to radiation within the wavelength range emitted therefrom to achieve optimum heating efficiency.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hastie et al. in view of Usuki et al., Rees, and Durand as applied to claim 1, and further in view of Williams et al. (US 2003/0008116)

The teachings of claim 1 are as described above.

With respect to claim 2, Hastie et al. fail to teach a printed transfer element comprising an intermediate barrier layer interposed between a dye-receptive layer and a film substrate. Williams et al. teach using an image transfer sheet with a barrier layer coated on a support layer (paragraphs 0046 and 0047).

It would have been obvious to Hastie et al. to use a transfer element with an intermediate barrier layer as Hastie et al. taught and would have been motivated to do so to allow better release of the image layer from the support layer (paragraph 0047).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hastie et al. in view of Usuki et al., Rees, and Durand as applied to claim 1, and further in view of Narita et al. (US 6165938).

The teachings of claim 1 are as described above.

Although Usuki et al. teach a dye-receptive layer with a resin binder (column 6, lines 33-46), the combined teachings of Hastie et al., Usuki et al., Rees, and Durand do not specifically teach a dye receptive layer comprising a polymeric film-forming binder and pigment. Narita et al. teach an image-receiving thermal transfer sheet where the dye-receptive layer comprises pigments (column 3, line 66 – column 4, line 6).

It would have been obvious to Hastie et al. in view of Usuki et al., Rees, and Durand to teach using a pigment-binder as a dye receptive layer as Narita et al. taught and would have been motivated to do further enhance the sharpness of the image that is transferred.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hastie et al. in view of Usuki et al., Rees, and Durand as applied to claim 1 above, and further in view of Gibbs et al. (US 3888719)

The teachings of claim 1 are as described above.

The combined teachings of Hastie et al., Usuki et al., Rees, and Durand do not specifically teach using a flexible membrane made of silicon rubber. Gibbs et al. teach

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using a vacuum press where one surface is flexible and made of silicon rubber (column 3, lines 56-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a flexible membrane made of silicon rubber and would have been motivated to do so to have a wall that is flexible and air-permeable to conform to any three-dimensional object of any shape or size.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonya Mazumdar whose telephone number is (571) 272-6019. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SM

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